

Data sheet for SIMOTICS S-1FK7



Figure similar

MLFB-Ordering data

1FK7042-2AK71-1PH0

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

Engineering data		Mechanical data			
Rated speed (100 K)	6000 rpm	Motor type	Permanent-magnet synchronous motor		
Number of poles	8	Motor type	Compact		
Rated torque (100 K)	1.5 Nm	Shaft height	48		
Rated current	2.5 A	Cooling	Natural cooling		
Static torque (60 K)	2.50 Nm	Radial runout tolerance	0.040 mm		
Static torque (100 K)	3.0 Nm	Concentricity tolerance	0.08 mm		
Stall current (60 K)	3.55 A	Axial runout tolerance	0.08 mm		
Stall current (100 K)	4.40 A	Vibration severity grade	Grade A		
Moment of inertia	3.200 kgcm ²	Connector size	1		
Efficiency	89.0 %	Degree of protection	IP64		
<th colspan="2">Physical constants</th>		Physical constants		Design acc. to Code I	IM B5 (IM V1, IM V3)
		Torque constant	0.68 Nm/A	Temperature monitoring	Pt1000 temperature sensor
		Voltage constant at 20° C	44.5 V/1000*min ⁻¹	Electrical connectors	Connectors for signals and power rotatable
		Winding resistance at 20° C	1.15 Ω	Color of the housing	Standard (Anthracite RAL 7016)
		Rotating field inductance	8.6 mH	Holding brake	with holding brake
		Electrical time constant	7.50 ms	Shaft extension	Plain shaft
		Mechanical time constant	2.15 ms	Encoder system	Resolver R14DQ: resolver 14 bits (resolution 16384, internal 2-pole)
		Thermal time constant	30 min		
		Shaft torsional stiffness	11400 Nm/rad		
		Net weight of the motor	5.3 kg		



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Optimum operating point

Optimum speed 5000 rpm

Optimum power 1.0 kW

Limiting data

Max. permissible speed (mech.) 9000 rpm

Max. permissible speed (inverter) 9000 rpm

Maximum torque 10.5 Nm

Maximum current 15.3 A

Holding brake

Holding brake version Permanent-magnet brake

Holding torque 4.0 Nm

Power supply voltage DC 24 V \pm 10 %

Coil current 0.5 A

Opening time 70 ms

Closing time 30 ms

Highest braking work 150 J

Recommended Motor Module

Rated inverter current 5 A

Maximum inverter current 15 A

Maximum torque 10.30 Nm